

UN COPUOS Legal Subcommittee March-April 1993 Meeting and the Limit Between Air Space and Outer Space

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Abstract

U.N. Doc. A/Ac.105/D.2/L.189, presented by the Russian Federation, brings renewed energy to the unsolved problem of the boundary between both spaces and a new matter for discussion. Questioning the legal regime of aerospace objects, the said document deals with the demarcation problem. It will be very dangerous, to improve the idea, that such objects must have a special legal frame. If such line is followed, instead of one problem -the delimitation one -, we are going to have two. Such one and, the new and more complicated.

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To define such kind of objects, we must mark off, air space and outer space, and of course the junction. We must define and regulate the scenarios of human activities by means of crafts, not such crafts in order to know where one space ends and the other begins.

Introduction

Such working paper, begins with a definition of aerospace object, for the purposes of the same: "... an object which is launched into outer space and which is capable at some stage in its flight of using its aerodynamic properties to remain in airspace for a relatively long period." Thinking that the legal regime of such objects is different, according to its location in the spaces,

arises the possibility of a single or unified regime. Of course a large number of questions need to be answered.

The paper mentions some that have legal consequences: such objects may be considered as aircrafts while in airspace?; take off and landing, will be different of entry or return from outer space?; national and international norms will be applicable to an object of one State while it is in the airspace of another?; prior notification of launchings and return, will be necessary?; the passage of aerospace objects through national airspace, will require prior authorization?; rules of registration, should be changed, for such objects?; the concept of "launching state" need to be changed for such objects?.

Aircrafts, Space Objects and Hybrids

Aircrafts are: "... any machine that can derive support in the atmosphere from the reactions of the air other than the reactions of the air against the earth's surface " (1)

Space objects have not such a definition.

Following Prof. Cheng, we can say: "... it would appear that the term 'space object' covers any object launched by humans into outer space, as well as any component part

thereof, together with its launch vehicle and parts thereof ". (2)

Hybrids are crafts capable of circulate in both spaces. By means of their aerodynamic reactions with the atmosphere, in air space and by force of their propulsion in outer space, where there is not aerodynamic lift. Because of such possibilities, they are generally denominated " space planes " although such words together means a contradiction, because " plane " means level surface, and in outer space such surfaces are useless. They will revolutionize long distance intercontinental travel, and give a tremendous impact to outer space activities. (3).

Such " planes " , can be classified in two categories by the moment, following Hashimoto (4). 1) surface to surface space plane; 2) surface to outer space plane.-

The first one, is a real plane that could reach almost any place of the earth, within a couple of hours. Take off and landing is similar to all aircrafts; the only difference is that they circulate most of their trip at a low outer space route. The second one, takes off and lands also like a common aircraft, but it is not aimed, to join two points of earth; its destination is outer space.

Legal Issues

Now that we have an idea of the different crafts, let us face their activities with the questions arising by the mentioned working paper.

First we must underline, that the reference made is to the last possibility of such crafts. The " STO or surface to outer space plane ".

Such crafts, are space objects because of their capabilities and destination of their activity.

Space law must be applied to all their operations.

They cannot be considered as aircrafts, because they are not.

International and national air law, are applicable to them as to any other crafts that flies in air space.

The two following questions, deals with circulation norms.

As it is well known, Annex 2 ICAO Convention, is devoted to such norms.

In the near future, such kind of rules, must be adequate in accordance with the

appearance of new vehicles.

The same procedure, must be

followed with the other questions already pointed.

and with the new ones that would appear during the

studies.

Such objects, must be registered, as it is required

in the Convention on Registration, and the concept

of " launching state ", also must be redefined.

It is against legal criteria, to develop special

rules, each time we have a new technical achievement. We must remember, that when helicopters began the great development, in the fifties, many scholars advance ideas of a special regimen for them (5).

Finally with some adjustments to general air law, all the problems were surpassed.

A similar situations occur with air-cushion vehicles,

that are much near in comparison with this case.

A lot of works deals with the same, and a very important

project by Jean Chaveau (6).

At last, due to the limited use of such crafts, and to

the fact, that with only some few adaptation of already

existing rules, they can work, the so elaborated

special regime ends as a very interesting work.

Ultralight airplanes and paraplanes, also present new

problems in air law. But we are not going, to design

special regimes for all of them. We have only to

modify or adapt, pertinent parts, of already

useful national and international rules,

according to the problems they present.

UNCUOPOS Legal Subcommittee (1993) comments.

We must recognize that, the purpose of the paper,

stimulus for a new treatment of the boundary problem, was achieved.

This is - we can say - a very old unsolved problem as was remembered by Cocca (7)

Many delegates make their first commentaries, following the line, that the boundary between both spaces, must be determine.

To my view, the comment, (8) that even if the proposal of the paper was approved, the delimitation between both spaces will still be necessary: was the most important. In fact, the definition of space object proposed, refers to air space and outer space, so we have to know their limits. Another important suggestion, (9) was to request ICAD on such subjects.

In the future, as it was already mentioned, some air rules, must be modified, in order to be applied, to new vehicles, that are not aircrafts.

It was also correctly pointed, that other questions must be analyzed. During the third meeting of the Working Group, the President submitted a more comprehensive questionnaire to states on the subject (10) The first request, if foreign space objects, in their normal return trip had cross their air space.

It is a good question, because we assumed that the departure and first part of the outgoing steps, will be carried across its own

space or through free air space.

The second and third deals with the trajectory of " space shuttles ".

In order to have a complete frame, it is very important to know what part of air space this kind of space objects need, to reentered and land, because in such part there are gliders, and need more air space than other hybrids, to land. Next questions deals with the rules applied for parts of the trip, and the organization that must govern them.

At present ICAD has done a very important work, and because of its importance among international organizations and knowledge of the matter, seems to be the appropriate forum for new discussions on such subjects. Number fifth suggest, a definition of aerospace object - the one that in a part of its flight can use its aerodynamics qualities to remain for a long period in air space - will arise some arguments. Next deals with possibility of an unified regime for such objects, the principal point of the Russian Federation proposal, that on my view is uncorrect. In number eight, the question is, if space objects must be considered aircrafts during the passage through air space.

It is already mentioned, that in such cases modified air rules must be applied.

In number nine, the question is if a different regime must be applied to such objects, during take-off and landing, because it is different the rule in the case of entering air space from orbit and then return to such orbit.

It is proposed here, that only one frame of rules must be developed for the cases of space objects in air space, as its correspondent for space planes in outer space.

Same answer for next three questions.

For question thirteen, the actual registry of space objects, must be adequate to new technics, and as a consequence also all other concepts.

CONCLUSION

The border between air and outer space, must be defined. It seems that finally an agreement could be reached. New technics accelerate, new developments.

When creating new rules, drafters must be very careful, in order not to design a very complicated frame, that instead of encourage such advances, restraint the same.

We have since fifty years ago a working regime for air space, and a more recent and also good one for outer space.

Instead of a new and complicated regime for specified objects, just modified the existing ones.

NOTES

- 1) Revised and amended text of Annex 7 ICAO Convention.
- 2) Cheng, B. Space objects, astronauts and related expressions. Proc. 34th. Colloquium on the Law of Outer Space, p.17 (1991)
- 3) See. The National Aerospace Program. Joint Hearing Before the Subcommittee on Transportation, Aviation and Material of the Committee on Science Space and Technology, and the Subcommittee on Research and Development of the Committee on Armed Services, U.S. House of Representatives, 100 th. Cong., 1 st. Sess. (March 11, 1987), p. 22.
- 4) Hashimoto, Y. The Space Plane and International Space Law: Proc. 35 th. Colloquium on the Law of Outer Space, p. 378 (1992)
- 5) Fogue, L.W. Helicopters and the changes they require in aviation law. 14 JALC 1947, p. 300.
Bonerque-Winandy, E. La "charte" de l'helicoptere, 17 RGA 1954, p. 32.
- 6) Chaveau, F. Les vehicules a coussin d'air (air cushion craft). ILA Report, Buenos Aires 1968, p.136.
Idem, ILA Report, The Hague 1970, p. 316.
- 7) Cocca, A. Introductory remarks, II Interamerican Course on Outer Space. Univ. of Buenos Aires School of Law, 1-15 august 1994.

- 8) Point 10, U.N.A./Ac.108/ 544
p.14.
- 9) Id., point 7.
- 10) U.N.A./Ac.105/C.21993/CRP.1